

\* SWBAT solve word problems using  $F=ma$

Sep 6-2:31 PM

# Welcome!!!

SECA Physics  
Friday 25 October 2013

H. Leslie Grebe

Schedule make-up  
test?

\* Pick up:

- slip of paper (for later)
- whiteboard, marker, eraser
- packet

Centering...

Opening Question:

How would you explain the difference between **force** and **mass**???

↳ HOW HARD TO PUSH/PULL

PUSH/PULL

What does this have to do with weight???

Eureka 6: gravity

<http://www.youtube.com/watch?v=6ZzfKKxbg7A>

Newton's  
2<sup>nd</sup> Law:

$$W = m \cdot 10 \text{ m/s}^2$$

$$F = m \cdot a$$

FORCE DUE TO GRAVITY

$W = m \cdot g$  IS  
AN EXAMPLE  
OF  $F = m \cdot a$

Sep 7-7:04 AM

MAKE UP YOUR OWN... (FROM THURSDAY)

$$F: 3N$$

$$F = m a$$

$$\frac{F}{m \cdot a}$$

$$m: 2kg$$

$$a: ? = \frac{F}{m} = \frac{3N}{2kg} = 1.5 m/s^2$$

$$\frac{W}{m \cdot g}$$

$$W = m \cdot g$$

$$1N = 1 \frac{kg \cdot m}{s^2}$$

If my mass is 55 kg what is the force on me due to gravity?

$$F = W = ? = 55kg \cdot 10m/s^2 = 550N$$

$$m = 55kg$$

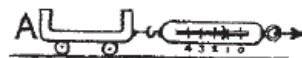
$$a = g = 10m/s^2$$

Racing Day with  $a = F/m$

In each situation below, Cart A has a mass of 1 kg.

1. Cart A is pulled with a force of 1 N.  
Cart B also has a mass of 1 kg and is pulled with a force of 2 N.  
Which undergoes the greater acceleration?

(A) (B) (Same for both)



Oct 24-7:50 AM

Worksheet Packet:

- Circle one of the choices
- THINK carefully
- Make sure you are comfortable with first 2 pages

$$F = ma$$

$$W = m \cdot g$$

$$\frac{F}{m \cdot a}$$

More force =>

MORE ACC.

More mass =>

LESS ACC.

Done? Do yesterday's worksheet if you weren't here... #1-4

$$a = \frac{1N}{1kg}$$

$$a = \frac{2N}{1kg}$$

Racing Day with  $a = F/m$

In each situation below, Cart A has a mass of 1 kg.

1. Cart A is pulled with a force of 1 N.  
Cart B also has a mass of 1 kg and is pulled with a force of 2 N.  
Which undergoes the greater acceleration?

(A) (B) (Same for both)



Sep 21-2:13 PM

## Quick Write:

What would you need to end the quarter in Physics where you'd like to be?

Oct 25-7:50 AM

### Daily 3 Questions

- \* Every day except test/project days
- \* 3 Questions on the topics of the day
- \* Main source of daily points
- \* I am happy to give credit when I have no concerns about someone giving or getting help with the answers.

You can't get your points if you don't have your **NAME!!!**

Name	Period
1.	
2.	
3.	

Sep 9-7:32 AM

1. ☒ True or false:  $W = m g$  is a specific example of Newton's 2nd Law,  $F = m a$

2. Cart B has **twice** as much **mass** as Cart A and is pulled with **twice** as much **force** as Cart A. Which has greater acceleration?

A. Cart A

B. Cart B

☒ C. Same acceleration for both

3. Use the equation triangle (or algebra) to determine the formula for "a":

A.  $a = m * F$

B.  $a = m / F$

☒ C.  $a = F / m$

Oct 8-6:48 AM